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RESEARCH ARTICLE

The Impact of Artificial Intelligence on Journalistic Ethics in Afghanistan: Opportunities and Challenges

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ABSTRACT

AI is transforming journalism worldwide, particularly in the production, dissemination and administration of news content. In Afghanistan, limited infrastructure, low digital literacy and fragile institutional frameworks hinder the use of AI in journalism. AI has the potential to greatly enhance journalism, but it also raises serious ethical questions around transparency, accuracy, accountability, fairness, privacy and public trust. Despite an increasing amount of international and regional research, empirical evidence on the ethical implications of AI in Afghan journalism remains limited. The present study used the Technology Acceptance Model (TAM) to explore the effect of artificial intelligence on journalistic ethics in Afghanistan. It examines the impact of perceived usefulness, perceived ease of use, opportunities and challenges on the intention to use and actual use of AI by journalists and their implications for ethical journalistic practice. The research design was quantitative in nature and data were analyzed with the help of descriptive statistics, Pearson correlation, multiple regression, independent samples t-tests and one-way ANOVA. The results show that perceived usefulness, perceived ease of use, and perceived opportunities positively and significantly influence journalists' intention to use and actual use of AI. The study also found that AI enhances news verification, information processing and newsroom efficiency but there are ethical challenges such as algorithmic bias, lack of transparency, risks of misinformation, privacy issues and reduced editorial accountability. Most of the demographic variables did not show a statistically significant difference except for educational level in selected variables. The research finds that AI has great potential to support journalism in Afghanistan, but its effective use requires ethical oversight, appropriate regulatory mechanisms, professional development and strong human oversight to protect journalistic integrity and maintain public confidence.

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Keywords: *Afghan Media, Artificial Intelligence, Journalistic Ethics, Journalists, Newsroom, Technology Acceptance Model.*

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Introduction

Artificial intelligence (AI) is one of the most important technical developments of the 21st century and is changing the way data is collected, processed, created, shared and used. Machine learning, natural language processing and generative AI have transformed journalism by automating repetitive newsroom activities, enhancing data analytics, speeding up news production and enabling more personalized information (Ali & Hassoun, 2019; Noain-Sánchez, 2022). AI is not just a technology, but it has become embedded in today's news ecosystems, transforming the way newsrooms operate, how editorial decisions are made and how journalists engage with their audiences.

Media organizations are powerful architects of public opinion, societal values and political decision-making, as well as being channels for the distribution of information. In this changing environment, the need for journalist ethics has become more acute. The integrity of

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media companies (Ward, 2019; Kovach & Rosenstiel, 2021; Christians et al., 2020; Foladi, 2009) is built upon candor, accuracy, objectivity, accountability and openness. It is a must for ethical journalism. Research has shown that these principles can be useful for fighting disinformation, increasing public trust, and promoting social stability (McQuail, 2010; UNESCO, 2021; Ahmadi, 2019). Ethical deficiency can lead to misinformation, bias and increased social tensions especially in fragile media ecosystems (Foladi, 2009; Ahmadi, 2019). Journalistic ethics in Afghanistan are important for the legitimacy, professional autonomy, and trust from the society (Karokhel, 2018) considering the large number of media outlets and socio-political sensitivities.

According to the Social Responsibility Theory (Siebert et al., 1956), media organizations should not only serve organizational or political goals, but also concentrate on the public welfare and contribute to social growth. The rapid growth of artificial intelligence also introduces new ethical questions, emphasizing the importance of robust professional standards in journalism (UNESCO, 2021; Khatib Zanjani, 2026).

There are big chances for artificial intelligence in journalism to make things more efficient and to widen the range of abilities of journalism. AI-assisted systems can quickly process large data sets and generate news reports from structured data, assist in multimedia production, aid in fact-checking, and offer personalized content suggestions to audiences (Masoudi, 2024; Sonni et al., 2024).

The advances helped journalists to concentrate on investigative reporting, interpretation and analytical journalism, reducing repetitive work (Noain-Sánchez, 2022). Some researchers, therefore, argue that AI should be viewed as a complementary tool to improve professional journalism, not to substitute it (Ali & Hassoun, 2019; Zhaxylykbayeva et al., 2025). At the same time, AI has also raised complex ethical issues that challenge traditional journalistic values. Issues related to algorithmic bias, misinformation, transparency, accountability, privacy, editorial responsibility, copyright and declining public trust have emerged as prominent in journalism studies (Dörr & Hollnbuchner, 2017; Krausová & Moravec, 2022; Onakpa et al., 2024). AI systems can improve productivity and consistency; however, they can also produce false or biased information, strengthen filter bubbles, reduce the diversity of sources, and make it difficult to assign responsibility for editorial decisions (Noain-Sánchez, 2022; Dierickx et al., 2024).

Thus, ethical regulation of AI is as important as technological progress. Modern-day empirical research still stresses the need for human supervision in practice of journalistic ethics. Comparative studies show that although AI-generated news is often well-structured and neutral, professional journalists' articles exhibit greater factual accuracy, completeness, and clarity of sources, and adherence to journalistic principles than AI-generated articles (Zhaxylykbayeva et al., 2025). Audiences trust less when news is seen to be mostly AI-generated, but this erosion of trust can be significantly mitigated if media companies disclose their use of AI and clearly state that human editors have verified the content (Saeed et al., 2025). The findings strengthen the argument for openness, accountability and editorial oversight as fundamental ethical principles in AI-assisted journalism.

This study investigates the influence of artificial intelligence (AI) on journalistic ethics in Afghanistan, covering newsroom practices, perceptions of journalists, and professional values. The results indicate that AI is beginning to play a formidable role in Afghan media landscape and is delivering big jumps in efficiency, speed and content production. AI-powered tools can help journalists and media organizations with transcription, data analysis, automated reporting and distribution of content which will lead to greater productivity and operational efficiency in the newsroom.

But the study also finds there are serious ethical and institutional challenges to adopting AI. Concerns include transparency and accountability, algorithmic bias, misinformation, loss of privacy and editorial control. These challenges are aggravated by lack of comprehensive regulatory frameworks and professional training in Afghanistan.

This research supports the Technology Acceptance Model (TAM) that perception of usefulness and perception of ease of use are important factors in the decision to adopt AI in journalism. However, these are constrained by contextual factors such as poor infrastructure, lack of institutional support and low digital literacy among media practitioners. The study concludes that AI has the potential to positively revolutionize journalism in Afghanistan; however, an unregulated and unstructured uptake of AI could pose serious risks to journalistic ethics and credibility. Therefore, AI should be used responsibly and normatively to protect journalistic principles such as truthfulness, accuracy, fairness and accountability from technological intrusion.

Afghanistan has particularly limited empirical research on artificial intelligence in journalism, despite the growing integration of technology into the media sector. Previous research has explored the broad adoption of new technology in media organization's in Afghanistan, but the impact of AI on journalistic ethics has not been addressed. Hakimi et al. (2024) found that Afghan media organizations recognize the importance of cloud computing and artificial intelligence for media development, but the lack of infrastructure, technical expertise, and regulatory support hinders their successful implementation.

The impact of artificial intelligence on the educational processes of computer science students of Nangarhar University is positive, which indicates the growing acquaintance of future specialists with AI technology (Zirak et al., 2025). Seo et al. (2024) indicate that students in the communication and media programs in Afghanistan and Pakistan are increasingly accepting AI, promising prospects for future AI integration in the media sectors. Additional Afghan studies consider larger questions of media ethics and the accuracy of information. The absence of media literacy significantly limits the ability of Afghan citizens to detect misinformation and fake news, emphasizing the importance of ethical journalism and digital literacy in combating information disorder (Maihanyar and Wardak, 2025). Also, Yaqubi et al. (2025) reported that audience confidence in Afghan media was significantly linked to ethical reporting strategies, transparency, respect for privacy, and editorial independence.

In Afghanistan, media audiences primarily evaluate the influence of media by the perceived quality and reliability of material, not the amount of media consumption (Miakhel, 2026). The findings indicate that ethical standards continue to be an important factor in the public's trust in the changing media landscape of Afghanistan.

International scholarship has advanced our understanding of AI in journalism significantly, but there are still significant gaps in the research. Prior research has focused predominantly on technologically advanced media systems with limited attention to developing countries characterized by political instability, limited technological infrastructure and rapidly changing media landscapes. Most of the existing research in Afghanistan has been focused on technology adoption, media literacy, public trust, and digital transformation. The ethical implications for journalistic practice of artificial intelligence – transparency, accountability, accuracy, fairness, privacy, and editorial responsibility – are largely unexamined. Also, there is a dearth of empirical studies exploring the perceptions of journalists on the ethical implications of AI, especially in terms of its impacts on transparency, accuracy, accountability, fairness, privacy and public trust. Moreover, there is a gap in the systematic application of the Technology Acceptance Model (TAM) to explain the impact of journalists' perception of AI on its use and the ethical implications for journalistic practice in the context of Afghan media.

This study is an attempt to explore the impact of Artificial Intelligence on journalistic ethics in Afghanistan by the help of Technology Acceptance Model (TAM). It investigates the effect of perceived usefulness, perceived ease of use, opportunities and challenges on intention to use and actual use of AI by journalists and how these factors affect ethical journalistic practices such as transparency, accuracy, accountability, fairness, privacy and public trust. The study contributes to the growing body of literature on AI and journalism by providing empirical data from Afghanistan, concentrating on journalists, editors, newsroom managers, media executives and local correspondents in Nangarhar and Laghman provinces. The findings are discussed in terms of their implications for media organizations, policymakers, journalism educators and journalists who want to promote ethical and responsible use of AI in journalism.

The study has the following specific objectives:

- To evaluate the perceived usefulness and perceived ease of use of Artificial Intelligence in ethical journalism practices by journalists and to explore their impact on the intention to use and actual use of AI.
- To investigate the opportunities and challenges of the use of Artificial Intelligence in ethical journalism practice.
- To study the effects of perceived opportunities and perceived challenges on journalists' intention to use and actual use of Artificial Intelligence.
- To analyses the differences in the use of Artificial Intelligence and study variables by age, job position, education level, type of media, and professional experience.
- To examine differences in Artificial Intelligence use and related study variables by age, job position, education level, media type, and professional experience.

In alignment with these objectives, the study addresses the following research questions:

- What are journalists' perceptions of the usefulness and ease of use of Artificial Intelligence, and how do these perceptions influence their intention to use and actual use of AI?
- What are the major opportunities and challenges associated with the use of Artificial Intelligence in ethical journalistic practice?
- How do the opportunities and challenges associated with Artificial Intelligence influence journalists' intention to use and actual use of AI?
- Are there significant differences in Artificial Intelligence use and related study variables according to age, job position, educational level, media type, and professional experience?

Research Hypotheses

H1	Perceived usefulness has a positive and significant effect on intention to use and actual use of artificial intelligence.
H2	Ease of perceived use has a positive and significant effect on the intention to use and the actual use of artificial intelligence.
H3	AI usage intention and actual use are positively and significantly influenced by opportunities.
H4	Perceived challenges associated with Artificial Intelligence significantly influence journalists' intention to use and actual use of Artificial Intelligence.
H5	First, there is a high positive correlation between perceived usefulness, perceived ease of use, intention to use, actual use and opportunities.
H6	Significant differences in the educational level were observed in the study variables.
H7	Significant differences were found in the study variables according to age, job position, and years of service.

Methods and Materials

This study aimed to study the effect of artificial intelligence on journalistic ethics in Afghanistan by employing a quantitative research design. A structured questionnaire based on the Technology Acceptance Model (TAM) was used for data collection from journalists, editors and media staff selected by purposive sampling. Descriptive statistics and one-way ANOVA were used to analyze the data collected in order to determine differences between groups according to demographic and professional variables. Standard quantitative research procedures were followed in the study to ensure the validity and reliability of the results (Creswell, 2014; Sekaran & Bougie, 2016).

Research Method

This research used quantitative research approach. According to its purpose, it is applied research, descriptive in nature, field research in setting, cross sectional in time and survey design in method. Data were collected through a structured questionnaire that allowed us to statistically analyses participants' perceptions of the impact of Artificial Intelligence (AI) on journalistic ethics.

Variables of the Study

The independent and dependent variables of this study are based on the Technology Acceptance Model (TAM). The independent variables are perceived usefulness, perceived ease of use, perceived opportunities and perceived challenges of artificial intelligence. We consider intention to use and actual use as behavioral constructs that relate to AI adoption. The dependent variable is ethics in journalism. It is measured by core ethical principles such as accuracy, objectivity, transparency, accountability, privacy, fairness and credibility. Some demographic variables (age, educational level, job position, media type and work experience) were also included to explore the possible differences among respondents.

Study Site

The study was conducted in Nangarhar and Laghman provinces, Afghanistan. Provinces were chosen deliberately as convenient locations for research purposes because they had a wide range of media professionals working for local, national and international media organizations. This diversity enabled data collection from journalists with different professional backgrounds and experiences in the use of Artificial Intelligence in journalism. The provinces were selected based on accessibility and logistical considerations.

Observation Ward

The unit of observation is the use of Artificial Intelligence in journalistic practices and its impact on ethical processes in news organizations. The study explores journalists' experiences, perceptions and professional practices regarding the use of AI in news production and editorial decision-making.

Analysis Unit

The unit of analysis is journalists, editors, newsroom managers, broadcasting managers and local

correspondents working in local, national and international media organizations working in Nangarhar and Laghman provinces. Their answers provide the empirical basis for the investigation of the ethical implications of AI for journalism.

Study Population

The target population is journalists, editors, newsroom managers, broadcasting managers and media professionals working in local media organizations and national and international media operating in Nangarhar and Laghman provinces. They were chosen because of their direct involvement in news gathering, editing, production and editorial decision-making and for their practical experience in using Artificial Intelligence in journalism.

Sample Count

The total study population was estimated to be approximately 200 media professionals. The sample size was calculated using Cochran's formula for sample size at 95% confidence level and 5% margin of error. This gave a sample size of 130 respondents, which was considered statistically representative of the study population.

Sampling Procedure

In this study, a combination of purposive sampling and convenience sampling was used. Participants were purposefully selected based on their job role, experience in journalism and knowledge on the applications of Artificial Intelligence in media organizations. This approach made sure that the respondents had relevant knowledge and practical experience in relation to the research objectives.

Instrument of Research

Data were collected using a structured questionnaire developed by the researcher. The questionnaire was designed based on the research objectives, research questions and theoretical framework. The questionnaire consisted of closed-ended items measured using a five-point Likert scale to capture respondents' perceptions and attitudes.

Data Collection Method

Questionnaires were distributed by hand to journalists, editors, newsroom managers, broadcasting managers and local reporters in the provinces of Nangarhar and Laghman. The questionnaires were completed voluntarily by the participants, with sufficient time and instructions. The researcher collected the filled in questionnaires personally in order to have high response rate and accuracy of data.

Validity and Reliability

The questionnaire was reviewed by 9 senior lecturers from Kabul University, Laghman University, Nangarhar University, and Kabul Education University for content validity. Comments and recommendations from the participants were considered in the final version of the instrument.

A pilot study was conducted with 30 respondents to check the reliability and construct validity of the questionnaire. Reliability was assessed using Cronbach's Alpha and Composite Reliability (CR), while construct validity was assessed using the Average Variance Extracted (AVE), the Kaiser–Meyer–Olkin (KMO) Measure of Sampling Adequacy, and Bartlett's Test of Sphericity. The results demonstrated that all constructs met the recommended thresholds, showing the satisfactory validity and reliability of the research instrument.

The results indicated acceptable psychometric properties and confirmed the validity of the instrument for the main data collection process.

Table 1. Reliability and convergent validity pilot test results.

No	Variable	Items	KMO	Bartlett's Sig.	AVE	Composite Reliability (CR)	Cronbach's Alpha
1	Perceived usefulness	4	0.567	0.000	0.593	0.852	0.769
2	Perceived Ease of Use	4	0.753	0.000	0.618	0.865	0.789
3	Intention to use	4	0.645	0.000	0.674	0.859	0.679
4	Actual use	4	0.696	0.000	0.616	0.861	0.774
5	Opportunities	5	0.859	0.000	0.738	0.933	0.907
6	Challenges	7	0.740	0.000	0.563	0.898	0.865

Data Analysis

Data were coded and analyzed using IBM SPSS Statistics Version 27. Characteristics of the respondents and study variables were described using descriptive statistics (frequencies, percentages, means, standard deviations, skewness and kurtosis). Inferential statistical analyses such as normality tests, correlation analysis and multiple regression analysis were used to explore the relationships among the study variables and to test the research hypotheses. These statistical techniques helped to accurately interpret and enhanced the validity and generalizability of the study findings.

Ethical Concerns

It was voluntary. All respondents were informed about the purpose of the research and informed consent was taken before filling the questionnaire. The anonymity and confidentiality of the participants were strictly observed and the collected data were used for academic and research purpose only. Ethical approval and consent to participate The study was conducted according to ethical principles based on Declaration of Helsinki.

Results

Artificial intelligence is changing journalism all over the world, and Afghanistan is no exception. It provides useful tools for faster news production, data analysis and better information access." But it also raises serious ethical concerns about issues like misinformation, bias and less accountability in reporting. These issues are even more important in the context of Afghanistan's difficult media environment. The article considers the possibilities and ethical problems of the application of AI in journalism and its influence on the professional standards of the country.

Table 2. Demographic Profile of the Respondents

Variable	Category	Frequency (N)	Percentage (%)
Gender	Male	121	93.1%
	Female	9	6.9%
Age	25 years or below	64	49.2%
	25 to 36 years	51	39.2%
	36 to 45 years	10	7.7%
	45 years or above	5	3.8%
Education Level	Grade 12 Graduate	25	19.2%
	Bachelor's Degree	100	76.9%
	Master's Degree	5	3.8%
Occupation	Journalist	89	68.5%
	Head of Newsroom	9	6.9%
	Editor	14	10.8%
	Broadcasting Manager	18	13.8%
Years of Service in Media Sector	3 years or less	49	37.7%
	More than 3 to 6 years	40	30.8%
	More than 6 to 9 years	18	13.8%
Province	Nangarhar	88	67.7%
	Laghman	42	32.3%
Type of Media (Based on Nature)	Radio	88	67.7%
	Radio & Television	23	17.7%
	News Agency	12	9.2%
	Print Media	7	5.4%
Media Ownership	Government	39	30.0%
	Private	91	70.0%
Participation based on Media Centralization (Local/Non-local media)	Yes	113	86.9%
	No	17	13.1%

The demographic characteristics of the respondents suggest that the sample is male, young and relatively well educated. The participants are primarily journalists, working in radio-based, private, and locally-focused media organizations in Nangarhar and Laghman provinces. Overall, the sample represents a workforce with a moderate level of professional experience in the media industry.

Table 3. Descriptive Statistics of Study Variables (AI and Journalism Ethics)

Variable	Item (Indicator)	N	Mean	Std. Deviation
Perceived Usefulness	AI improves data accuracy	130	3.80	0.97
	AI prevents fake news dissemination	130	3.48	1.14
	AI improves transparency in reporting	130	3.45	1.12
	AI helps protect national interest	130	3.44	1.11
Perceived Ease of Use	AI tools are easy for ethical decision-making	130	3.76	1.06
	Easy to evaluate credibility of AI news	130	3.65	0.98
	AI helps include multiple perspectives	130	3.66	1.03
	AI helps avoid plagiarism	130	3.86	1.09
Behavioral Intention	Intend to use AI for misinformation control	130	3.88	0.94
	Ethical policies increase AI use intention	130	3.89	0.98
	Intend to use AI for source protection	130	3.54	1.14
	Intend not to publish harmful content	130	4.38	1.00
Actual Use	Used AI for fact-checking news	130	3.28	1.07
	Used AI for unity-promoting news	130	3.74	1.08
	Used AI for objectivity in reporting	130	3.42	1.03
	Used AI after evaluating social harm	130	3.61	1.10
Opportunities	Used AI for fair and accurate reporting	130	3.43	1.09
	AI simplifies source credibility checking	130	3.42	1.09
	AI helps detect fake content	130	3.67	1.04
	AI improves news accuracy	130	3.44	1.03
	AI helps protect sensitive information	130	3.29	1.14
Challenges	Lack of source transparency is a problem	130	3.88	1.00
	AI errors spread misinformation quickly	130	3.93	0.98
	AI threatens journalistic identity	130	3.85	1.06
	Overreliance weakens ethical responsibility	130	3.91	1.03
	Privacy risks due to AI use	130	3.91	1.01
	Lack of AI explain ability reduces accountability	130	3.90	0.97
	AI-generated content reduces public trust	130	4.04	1.09

Table 2 shows the descriptive statistics (mean and standard deviation) for the study variables measured on a Likert scale.

Correlation Tests

Pearson correlation analysis was preceded by testing assumptions of linearity and normality. The results showed that the relationships among variables were about linear. The Kolmogorov–Smirnov and Shapiro–Wilk tests indicated some departures from normality ($p < 0.05$), however the values of skewness and kurtosis were in acceptable range (±1), supporting the appropriateness of the data for parametric analysis. We therefore used Pearson correlation.

Table 4. Pearson Correlation of Variables

Variables	Intention to use	Perceived usefulness	Perceived Ease of Use	Actual use	Opportunities	Challenges
Intention to use	1	.497**	.595**	.576**	.656**	.169
Perceived usefulness	.497**	1	.683**	.493**	.556**	-.025
Perceived Ease of Use	.595**	.683**	1	.562**	.661**	.109

Actual use	.576**	.493**	.562**	1	.745**	-.022
Opportunities	.656**	.556**	.661**	.745**	1	.024
Challenges	.169	-.025	.109	-.022	.024	1

Correlation analysis results indicate that most variables are significantly and positively correlated at 0.01 level. The strongest relationship was found between Actual use and opportunities (r=0.745). Also, there is a strong positive relationship between perceived usefulness and Perceived Ease of Use (r = 0.683). By contrast, challenges correlate weakly and mostly insignificantly with other variables.

Table 1 One-Sample t-Test Analysis of Study Variables (Test Value = 3) The one-sample t-test was conducted to test the significant difference between the mean values of the study variables and the test value of 3. The results are shown in the table below.

Table 5. Results of One-Sample t-Test

Variable	N	Mean	SD	T	Df	Sig. (2-tailed)	Cohen's d
Perceived usefulness	130	3.5404	0.8392	7.342	129	< .001	0.644
Perceived Ease of Use	130	3.7327	0.7864	10.623	129	< .001	0.932
Intention to use	130	3.9231	0.7015	15.003	129	< .001	1.316
Actual use	130	3.5115	0.8152	7.154	129	< .001	0.627
Opportunities	130	3.4508	0.8476	6.064	129	< .001	0.532
Challenges	130	3.9154	0.6481	16.103	129	< .001	1.412

The results show that the mean values of all the study variables are significantly higher than the test value (3) as all the p-values are below 0.001. This implies that the respondents generally perceive artificial intelligence in journalism positively in all constructs such as perceived usefulness, perceived ease of use, behavioral intention, actual use, opportunities, and challenges.

In addition, Cohen's d effect size values indicate that behavioral intention (d = 1.316) and challenges (d = 1.412) have strong effects, which means that respondents have a high intensity perception of them. Other variables, such as perceived ease of use (d = 0.932), perceived usefulness (d = 0.644), actual use (d = 0.627), and opportunities (d = 0.532) also have medium to large effect sizes.

The findings reveal that in totality, the perception of Artificial Intelligence in Afghan journalism is positive, but it also poses some challenges showing a dual impact.

Assumptions of Regression Analysis

Before running the regression analysis, the key assumptions of the model were tested to ensure the validity of the results. It was assumed that the relationships between the independent variables (perceived usefulness and perceived ease of use) and the dependent variables (intention to use and actual use) are approximately linear. Skewness, kurtosis, and the Shapiro–Wilk test were used to assess normality, and the results revealed an acceptable distribution (skewness = −0.210, kurtosis = 0.542, p = 0.205). Multicollinearity diagnostics did not indicate any serious problem as tolerance (.533) and VIF (1.875) were within acceptable levels. The independence of residuals was acceptable with Durbin-Watson statistic (1.393). Outlier analysis was performed on standardized residuals and Cook's Distance and no influential cases were found. Finally, the residual plots were visually checked for the assumption of homoscedasticity, and a random distribution of the errors was observed.

The assumptions of regression analysis were generally met and this supports the reliability of the model.

Table 6. Summary of Multiple Regression Model

Model	R	R^2	Adjusted R^2	Std. Error	F	Sig.	Durbin–Watson
1	.668	.446	.437	.50531	51.148	< .001	1.393

Dependent Variable: Intent to Use and Actual Use

Predictors: Perceived Usefulness, Ease of Use

The predictive impact of perceived usefulness and perceived ease of use on behavioral intention and actual use was examined using multiple regression analysis. The model summary shows that the independent variables explain 44.6% of the variance of the dependent variable (R^2 = .446, Adjusted R^2 = .437), which is a moderate explanatory power.

The overall model was statistically significant (F = 51.148, p <.001) confirming that the predictors reliably account for the variation in the dependent variable. Furthermore, the Durbin–Watson value (1.393) shows that residuals are fairly independent that confirms the validity of the regression model.

Table 7. Multiple Regression Coefficients for Behavioral Intention and Actual Usage.

Predictor	B	Std. Error	β	t	Sig.	95% CI (Lower)	95% CI (Upper)	Tolerance	VIF
Constant	1.500	0.224	—	6.702	< .001	1.057	1.943	—	—
Perceived Usefulness	0.171	0.073	0.213	2.353	0.020	0.027	0.314	0.533	1.875
Perceived Ease of Use	0.432	0.077	0.504	5.577	< .001	0.279	0.585	0.533	1.875

Dependent Variable: Intention and Behavior Use

The effect of perceived usefulness and perceived ease of use on behavioral intention and actual use was tested using multiple regression analysis. The results show that both predictors are significant predictors of the dependent variable.

Perceived usefulness has a positive and statistical significant effect (β = 0.213, p = 0.020), while perceived ease of use shows a stronger positive and highly significant effect (β = 0.504, p < .001). This suggests that ease of use is a better predictor than usefulness to explain behavioral intention and actual use.

Moreover, the Multicollinearity diagnostics indicate that the Tolerance values (.533) are more than 0.10, and the VIF values (1.875) are less than 5, confirming the absence of a Multicollinearity problem in the model.

Table 8. Regression Analysis of Opportunities on Behavioral Intention and Actual Use

Predictor	B	Std. Error	β	T	Sig.	95% CI (Lower)	95% CI (Upper)
Constant	1.544	0.152	—	10.140	< .001	1.243	1.845
Opportunities	0.630	0.043	0.792	14.696	< .001	0.545	0.715

Model Summary: R= 0.792, R Square= 0.628, Adjusted R Square= 0.625, F= 215.986, Durbin–Watson= 1.505

Dependent Variable: Behavioral Intention and Real Use

A simple linear regression analysis was performed to investigate the influence of opportunities on behavioral intention and actual use. The results show that opportunities have a strong and statistically significant positive effect to the dependent variable (β = .792, p < .001).

R2 of .628 (62.8% of the variance) for behavioral intention and actual use of the model indicates its strong explanatory power. The regression model was statistically significant (F = 215.986, p <.001), supporting the robustness of the relationship.

Also, the Durbin–Watson value (1.505) suggests that the residuals are reasonably independent, which supports the validity of the model.

Overall, the results suggest that opportunities are an important factor in influencing the behavioral intention and actual use of artificial intelligence by journalists.

Table 9. Regression Analysis of Challenges on Behavioral Intention and Actual Use

Predictor	B	Std. Error	β	T	Sig.	95% CI (Lower)	95% CI (Upper)
Constant	3.412	0.364	—	9.385	< .001	2.692	4.131
Challenges	0.078	0.092	0.075	0.852	0.396	-0.103	0.259

Model Summary R R Square Adjusted R Square F Durbin-Watson 0.075 0.006 -0.002 0.726 1.407
Dependent Variable: Behavioral Intention and Actual Usage

A simple linear regression analysis was used to analyze the effect of challenges on behavioral intention and actual use. Results show that challenges have a positive yet statistically insignificant impact on the dependent variable ($\beta = 0.075$, $p = 0.396$).

The model explains only 0.6 % of the variance of behavioral intention and actual use ($R^2 = .006$), which is a very weak explanatory power. Moreover, the overall model is not statistically significant ($F = 0.726$, $p > .05$), indicating that challenges are not significant predictors of behavioral intention and actual use in this study.

The value of Durbin-Watson is 1.407 which indicates that residuals are reasonably independent. In general, the results indicate that challenges do not play an important predictive role in influencing the use of artificial intelligence by journalists in this context.

Table 10. Independent Samples t-test for Provincial Variations

Variable	Nangarhar (Mean ± SD)	Laghman (Mean ± SD)	t	df	Sig.
Perceived Usefulness	3.5398 ± 0.89	3.5417 ± 0.72	-0.012	128	0.990
Perceived Ease of Use	3.7330 ± 0.82	3.7321 ± 0.71	0.005	128	0.996
Behavioral Intention	3.9943 ± 0.67	3.7738 ± 0.75	1.688	128	0.094
Actual Use	3.5938 ± 0.84	3.3393 ± 0.73	1.676	128	0.096
Opportunities	3.4614 ± 0.91	3.4286 ± 0.70	0.206	128	0.837
Challenges	3.8620 ± 0.69	4.0272 ± 0.54	-1.364	128	0.175

There were no statistically significant differences between the respondents of Nangarhar and Laghman Provinces in all variables ($p > .05$) that is, the province has no impact on the respondents' perceptions of artificial intelligence in journalism.

Table 11 Independent Samples t-test for Differences Between Government and Private Media

Variable	Government (Mean ± SD)	Private (Mean ± SD)	t	df	p
Perceived Usefulness	3.58 ± 1.01	3.52 ± 0.76	0.324	128	0.747
Perceived Ease of Use	3.79 ± 0.88	3.71 ± 0.74	0.589	128	0.557
Behavioral Intention	3.86 ± 0.86	3.95 ± 0.62	-0.681	128	0.497
Actual Use	3.57 ± 0.96	3.49 ± 0.75	0.487	58.51	0.628
Opportunities	3.47 ± 0.93	3.44 ± 0.81	0.184	128	0.854
Challenges	4.00 ± 0.55	3.88 ± 0.69	1.068	89.73	0.289

Independent samples t-tests were performed to investigate differences between government and private media for all study variables. All p-values are above 0.05, therefore no statistically significant differences were found between the two groups.

Table 12. Independent Samples t-test for Differences in Media Location (Local vs National/International Media)

Variable	Local Media (Mean ± SD)	National/International Media (Mean ± SD)	t	df	p
Perceived Usefulness	3.52 ± 0.83	3.68 ± 0.88	-0.716	128	0.475
Perceived Ease of Use	3.71 ± 0.79	3.87 ± 0.81	-0.758	128	0.450
Behavioral Intention	3.86 ± 0.70	4.37 ± 0.54	-2.881	128	0.005*

Differences between local media and national/international media respondents were examined using an independent samples t-test. The results show that there is no statistically significant difference in perceived

usefulness and perceived ease of use, because the p-value is greater than 0.05.

However, there was a significant difference in behavioral intention (t = -2.881, p = 0.005), which indicated that participants from national/international media had higher intention to use artificial intelligence than participants from local media.

Overall, the results show that media location does not have any significant effect on most of the variables, except for behavioral intention where a significant difference is found.

Table 13. One-Way ANOVA Results of Study Variables Differences by Age Group

Variable	F	df (Between, Within)	Sig. (p-value)
Perceived Usefulness	0.404	3, 126	.750
Perceived Ease of Use	1.147	3, 126	.333
Intention to Use	1.095	3, 126	.354
Actual Use	1.009	3, 126	.391
Opportunities	0.891	3, 126	.448
Challenges	0.116	3, 126	.950

One-Way ANOVA showed no significant differences among the age groups for any of the study variables (p > .05). This indicates that age was not a significant factor in participants' perceptions, intentions, actual use, opportunities or challenges regarding artificial intelligence.

Table 14. One-way ANOVA results for differences in study variables according to educational level.

Variable	F	Sig. (p-value)
Perceived Usefulness	0.354	.703
Perceived Ease of Use	2.450	.090
Intention to Use	1.082	.342
Actual Use	1.939	.148
Opportunities	4.018	.020*
Challenges	0.748	.475

*Significant at p < .05.

One-Way ANOVA results showed no statistically significant differences in perceived usefulness, perceived ease of use, intention to use, actual use and challenges across educational levels (p >.05). However, a statistically significant difference was found on opportunities (F = 4.018, p =.020) indicating that the perceptions of the opportunities associated with artificial intelligence were different for participants with different educational levels.

Table 15. Results of One-Way ANOVA of Study Variables Differences by Job Position

Variable	F	Sig. (p-value)
Perceived Usefulness	0.067	.978
Perceived Ease of Use	0.277	.842
Intention to Use	0.437	.727
Actual Use	0.448	.719
Opportunities	0.472	.702
Challenges	1.199	.313

The results of the One-Way ANOVA showed no significant differences among the job positions for all the variables of the study (p >.05). This indicates that job position of participants did not significantly affect their perception, intention to use, actual use, perceived opportunities, and perceived challenges of artificial intelligence.

Table 16. One-Way ANOVA of Differences in Study Variables by Years of Service

Variable	F	Sig. (p-value)
Perceived Usefulness	0.365	.778
Perceived Ease of Use	1.860	.140
Intention to Use	0.347	.792
Actual Use	1.599	.193
Opportunities	1.394	.248
Challenges	2.297	.081

The One-Way ANOVA revealed no statistically significant differences across years of service for any of the study variables (p > .05). This implies that the years of service of the participants did not significantly affect their perceptions, intention to use, actual use, perceived opportunities, or perceived challenges of artificial intelligence.

Discussion and Testing of Hypotheses

The results of the hypothesis testing from the statistical analyses conducted in the study are presented in this section. The hypotheses were tested by means of the Pearson correlation, regression analysis, Independent Samples t-test and One-Way ANOVA. The results indicate whether the proposed relationships and group differences are statistically significant and therefore whether each hypothesis is supported or not supported. Table 4.X shows a summary of the hypothesis testing results, including the significance values (p-values) and the final decision for the hypotheses.

Table 17. Summary of research hypothesis tests

Hypothesis	Research Hypothesis	P-value	Decision
H1	Perceived usefulness has a positive and significant effect on intention to use and actual use of artificial intelligence.	.020	Supported
H2	Ease of perceived use has a positive and significant effect on the intention to use and the actual use of artificial intelligence.	< .001	Supported
H3	AI usage intention and actual use are positively and significantly influenced by opportunities.	< .001	Supported
H4	H3: Perceived challenges associated with Artificial Intelligence significantly influence journalists' intention to use and actual use of Artificial Intelligence.	.396	Not Supported
H5	First, there is a high positive correlation between perceived usefulness, perceived ease of use, intention to use, actual use and opportunities.	< .001	Supported
H6	Significant differences in the educational level were observed in the study variables.	.020*	Supported
H7	Significant differences were found in the study variables according to age, job position, and years of service.	> .05	Not Supported

The current study explored the impact of artificial intelligence (AI) on the journalistic ethics in Afghanistan, mainly focusing on the newsroom practices, professional behavior, and ethical standards among the journalists, editors, and media managers. To discuss the results to the research objectives: To investigate the impact of AI on journalistic ethics, the opportunities it brings and the challenges it offers to the Afghan media.

Overall, the findings suggest that perceptions about adopting AI in Afghan journalism are a double-edged sword. On the other hand, it increases efficiency, allows content generation and improves data processing capabilities. On the other hand, it raises serious ethical issues regarding transparency, accountability, bias, and credibility of information. The results confirm earlier international studies that have highlighted the potential and ethical dangers of AI in journalism (Graefe, 2015; Ali & Hassoun, 2019).

The results are very consistent with the Technology Acceptance Model (TAM) in theory. The study's findings suggest that perceived usefulness has a significant impact on journalists' intention to adopt AI tools, especially for tasks such as transcription, content creation, and data analysis. However, perceived ease of use is not enough to ensure acceptance. Major barriers in Afghanistan include institutional constraints, lack of training and inadequate technology infrastructure. This is in agreement with Davis (1989) who observed that the adoption of technology is determined not only by system characteristics but also by contextual and organizational factors.

Ethically, the findings confirm that AI poses challenges to core journalistic values, including truthfulness, accuracy, impartiality and accountability. Similar concerns have been widely raised in the literature, with scholars arguing that algorithmic journalism can lead to bias, loss of editorial control and less transparency of news production processes (Dörr & Hollnbuchner, 2017; Kruikemeier & Lecheler, 2023). The present study extends these findings by showing that such risks are higher in developing media systems, such as Afghanistan, where regulatory and ethical frameworks are still not well developed.

The study also indicates that AI adoption in Afghan journalism is patchy and highly dependent on institutional capacity. Bigger media organizations with more digital capacity and trained staff are better placed to successfully embed AI tools, while smaller or under-resourced newsrooms are more hesitant. This finding is in line with Sánchez (2022) who identified weak governance structures and limited professional training as major constraints to the integration of ethical AI in journalism, especially in developing regions.

A major finding of this study is that there is a long lag between technological progress and regulation of ethics. Afghan newsrooms are increasingly turning to artificial intelligence to increase productivity and speed, but there are no standardized ethical guidelines for its use. This increases the risk of misinformation, less human oversight and possible misuse of automated content generation systems. Dörr and Hollnbuchner (2017) likewise raised similar concerns, highlighting the need for

the institutionalization of ethical frameworks for algorithmic journalism.

It is worth noting that the value of this study lies in its contextual contribution. Most of the existing research is limited to Western or highly developed media systems. This study adds empirical insights from Afghanistan, where digital transformation is still at its infancy phase. It reveals the cultural, technological and institutional barriers to the adoption of AI in journalism. Thus, the study contributes both theoretically and practically by extending TAM to a media environment with limited resources, and providing evidence to policymakers and media organizations on the need for ethical AI governance.

The findings have also practical implications for media development in Afghanistan. They argue that without adequate training programs, ethical guidelines and regulatory frameworks, AI could work against rather than for journalistic integrity. Thus, capacity building, AI literacy initiatives and institutional reforms are crucial for responsible AI integration in Afghan journalism (Fatima et al., 2025).

This paper generally illustrates how artificial intelligence affects journalism in Afghanistan in terms of improving the efficiency and productivity of the newsroom but at the same time bringing about significant ethical issues. The results confirm the role of perceived usefulness, institutional readiness and context constraints on the AI adoption. But it is lacking in robust ethical frameworks and limited professional capacity to use it responsibly. AI presents promising opportunities for Afghan journalism, yet the sustainable integration of AI demands a balanced emphasis on ethical governance, professional training, and regulatory development to preserve journalistic integrity and public confidence.

Conclusion

The study investigated the effect of artificial intelligence (AI) on journalistic ethics in Afghanistan, such as newsroom practices, perceptions of journalists, and professional values. The findings show that AI is emerging as a powerful player in the Afghan media landscape and is resulting in significant gains in efficiency, speed and content production. AI-powered tools can assist journalists and media organizations with transcription, data analysis, automated reporting and distribution of content which will result in greater productivity and operational efficiency in the newsroom.

But the study also finds there are serious ethical and institutional challenges to the adoption of AI. Concerns include transparency and accountability, algorithmic bias, misinformation, privacy breaches and loss of editorial control. In Afghanistan, the absence of comprehensive regulatory frameworks and a lack of professional training compound these challenges.

This research lends support to the Technology Acceptance Model (TAM) that the perceived usefulness and perceived ease of use are significant factors influencing the decision to adopt AI in journalism. However, these factors are constrained by contextual factors such as poor infrastructure, lack of institutional support and low digital literacy among media practitioners.

The study concludes that while the use of AI holds promise for positively transforming journalism in Afghanistan, its unregulated and unstructured uptake could pose serious risks to journalistic ethics and credibility. Therefore, the responsible and normative use of AI is a must to protect the principles of journalism such as truthfulness, accuracy, fairness, and accountability from technological intrusion.

Suggestions

- •Afghan media institutions should establish ethical guidelines for the use of artificial intelligence in journalism.
- Conduct frequent training programmers for journalists to increase their knowledge of AI and its ethical application in tools.
- Media organizations should upgrade their digital infrastructure to enable effective and secure AI integration.
- Human editorial judgment should be applied at all stages of the AI-assisted news production process.
- Develop a clear legal and regulatory framework to govern the use of AI in the media sector.
- Promote media and digital literacy for journalists and the public to mitigate the risks of misinformation.
- Further research is needed on the impact of AI on journalism in different regions of Afghanistan.

Competing interests

The authors declare no conflict of interest with regard to the publication of this manuscript.

Availability of data statement

The datasets generated and analyzed during the current study are available from the corresponding author on reasonable request.

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